



EXPRESS MAIL LABEL NO. EF373403661US

PATENTS  
01783/102

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Inventors: Sherie L. Morrison;  
Leonard A. Herzenberg; and  
Vernon T. Oi

Patent Owners /Assignees: The Trustees of Columbia University in the City of New York and  
The Board of Trustees of the Leland Stanford Junior University

Patent No.: 5,807,715

**RECEIVED**

Issued: September 15, 1998

NOV 20 2003

Application No.: 08/266,154

**OFFICE OF PETITIONS**

Filed: June 27, 1994

For: METHODS AND TRANSFORMED MAMMALIAN LYMPHOCYTIC  
CELLS FOR PRODUCING FUNCTIONAL ANTIGEN-BINDING  
PROTEIN INCLUDING CHIMERIC IMMUNOGLOBULIN AND  
FRAGMENTS

Mail Stop PETITION  
Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

New York, NY  
November 14, 2003

**RECONSIDERATION PETITION UNDER 37 C.F.R. § 1.182 TO  
REPRINT THE FRONT PAGE OF THE LETTERS PATENT**

Dear Sir:

Patent Owners/Assignees hereby petition under 37 C.F.R. § 1.182 to reprint the front page of the above-identified Patent.

On January 16, 2003, the Patent Owners filed a Petition Under 37 C.F.R. § 1.182 For Issuance of a Corrected Patent. A copy of that Petition (without exhibits) is attached hereto as Exhibit 1. On July 8, 2003, the Patent Office issued a Decision on Petition dismissing the

Patent Owners' Petition. A copy of the Decision is attached hereto as Exhibit 2. Although the Decision denied the relief that was sought by Patent Owners, the Decision stated that:

The appropriate avenue to obtain relief is to file:

(1) a petition under 37 C.F.R. § 1.183 to waive the rules and accept the correction of the assignee on the front page of the above-identified patent by way of a certificate of correction -- the petition must include a completed certificate of correction form, the \$130 petition fee, and the \$100 certificate of correction fee and

(2) a reconsideration petition under 37 C.F.R. § 1.182 to reprint the assignee's name, as well as the correct title, etc. on the front page of the Letters Patent. The desired changes must be reflected in the request for the certificate of correction. As stated above, petitioner must return the original Letters Patent. Please note that only the front page of the Letters Patent is reprinted. All other copies are considered corrected by the normal certificate of correction process.

In accordance with this statement in the Decision, Patent Owners file this Petition to meet the requirements of part (2) of the statement. A separate Petition under 37 C.F.R. § 1.183 is being filed herewith to meet the requirements of part (1) of this statement.

In accordance with 37 C.F.R. § 1.182, the Director is hereby authorized to charge the petition fee required by 37 C.F.R. § 1.17(h) (i.e., \$130) with this Petition to Deposit Account No. 50-0324.

As required by part (2) of the above-referenced statement in the Decision on Petition:

(i) the desired changes to the front page of the Letters Patent with respect to item [73] are indicated in the Certificate of Correction form PTO-1050 filed with the separate Petition Under 37 C.F.R. § 1.183 (copy attached hereto as Exhibit 3) and with respect to items [54], [56], and [75] are indicated on the Certificate of Correction issued August 6, 2002 (copy attached hereto as Exhibit 4); and

(ii) the original Letters Patent for the above-identified case is enclosed herewith.

The Director is hereby authorized to charge any other fees that may be due in connection with this paper or otherwise due in connection with the above-identified Patent, and to deposit any overpayment of fees in connection with the above-identified Patent, to Deposit Account No. 50-0324. A duplicate copy of this Petition (without exhibits) is enclosed herewith.

Respectfully submitted,

By: 

Matthew T. Byrne  
Registration No. 40,934  
Attorney for Assignees

Shearman & Sterling LLC  
599 Lexington Avenue  
New York, NY 10022  
(212) 848-4000

RECEIVED

NOV 20 2003

OFFICE OF PETITIONS

08265454-012704

**FILE COPY****PATENTS**  
01783/102**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

**Inventors:** Sherie L. Morrison  
Leonard A. Herzenberg  
Vernon T. Oi

**Assignees:** The Trustees of Columbia University in the City of New York  
The Board of Trustees of the Leland Stanford Junior University

**Patent No.:** 5,807,715

**Issued:** September 15, 1998

**Application No.:** 08/266,154

**Filed:** June 27, 1994

**For:** METHODS AND TRANSFORMED MAMMALIAN LYMPHOCYTIC  
CELLS FOR PRODUCING FUNCTIONAL ANTIGEN-BINDING  
PROTEIN INCLUDING CHIMERIC IMMUNOGLOBULIN AND  
FRAGMENTS

Hon. Commissioner for Patents  
Washington, D.C. 20231

**PETITION UNDER 37 C.F.R. 1.182 FOR ISSUANCE  
OF A CORRECTED PATENT**

The Trustees of Columbia University in the City of New York ("Columbia University") and The Board of Trustees of the Leland Stanford Junior University ("Stanford University"), collectively the "Patent Owners," hereby petition under 37 C.F.R. § 1.182, and in accordance with 37 C.F.R. § 1.322(b), for the issuance of a corrected original ribbon grant of the above-referenced patent and a corrected electronic copy of the patent. A copy of the patent as originally issued is attached hereto at Tab 1.

**CONFIDENTIAL****UNIV005567**

On June 25, 1999, the Patent Owners submitted a Request Under 37 C.F.R. § 1.322 and § 1.323 For Issuance of Corrected Copy of Patent ("Correction Request") to the Certificate of Correction Branch, copy attached hereto at Tab 2. A review of the Correction Request demonstrates that there were numerous printing errors in the patent as issued. Three of the errors, namely two errors in the title of the patent and an error in failing to list one of the Patent Owners as an assignee of the patent, were believed to be of such import that the Patent Owners requested the issuance of a corrected original ribbon grant of the patent. Indeed, recent discussions with employees of the United States Patent and Trademark Office ("PTO") confirmed the Patent Owners' belief that where, as here, errors in the critical title and assignee fields are PTO errors, these errors warrant the issuance of a new ribbon grant. While a Certificate of Correction for the patent has been issued pursuant to the Correction Request, the Patent Owners believe that the circumstances set forth below warrant the issuance of a corrected original ribbon grant of the patent.

The Correction Request filed by the Patent Owners remained pending with the PTO for over three years before a Certificate of Correction issued on July 9, 2002, copy attached at Tab 3. However, the July 9, 2002 Certificate of Correction also failed to correct the assignee omission even though that error was included in the Correction Request. A subsequent Certificate of Correction listing both the Patent Owners as assignees was issued by the PTO on August 6, 2002, copy attached at Tab 4.

The patent has been the subject of licensing and the Patent Owner administering the licensing is the owner whose name was omitted from the patent, namely Columbia University. The omission of Columbia University from the face of the patent causes confusion among potential licensees, and indeed, potential licensees will not know that Columbia

University is an owner of the patent unless the second Certificate of Correction is accessed. Moreover, the patent is currently involved in litigation and the Patent Owners desire to use a corrected patent in litigation rather than the erroneous patent and two separate Certificates of Correction.

In light of (i) the critical nature of the title and assignee fields in which errors were made by the PTO, (ii) the additional PTO error in the original Certificate of Correction which resulted in the issuance of a second separate Certificate of Correction, and (iii) the inconvenience caused to the Patent Owners in their licensing efforts and in litigation because of the title and assignee errors, the Patent Owners respectfully request the issuance of a corrected original ribbon grant of the patent and a corrected electronic copy of the patent.

Moreover, in the event this request is granted, the Patent Owners respectfully request that the assignee field of the new copy of the patent recite the full name of assignee Columbia University, i.e., "The Trustees of Columbia University" should be replaced with "The Trustees of Columbia University in the City of New York." As may be seen from the assignments attached at Tab 5, each inventor assigned his or her entire right, title and interest in the invention claimed by the patent to either Stanford University or Columbia University. As may be seen from the Notices of Recordation, attached hereto at Tab 6, these assignments were properly recorded with the PTO. However, as can be seen from the Issue Fee Transmittal, copy attached hereto at Tab 7, the Issue Fee Transmittal incorrectly abbreviated the full name of "The Trustees of Columbia University in the City of New York," as appears in the Notices of Recordation, to "The Trustees of Columbia University." Therefore, the Patent Owners respectfully request that if this petition for the issuance of a corrected patent is granted, the

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assignee field of the corrected patent be amended to recite the complete name of Columbia University, namely "The Trustees of Columbia University in the City of New York."

In the event this request is granted, the Patent Owners are prepared to surrender the original ribbon grant of the patent and pay any additional fees deemed appropriate, including a new issue fee or new publication fee.

The Director is hereby authorized to charge \$130.00 to cover the petition fee set forth in 37 C.F.R. § 1.17(h) and any additional fees that may be due in connection with this paper, including a new issue fee or new publication fee, to Deposit Account No. 50-0324. A duplicate copy of this Petition is enclosed herewith.

Respectfully submitted,

By: 

Vicki S. Veenker  
Registration No. 34,269  
Attorney for Assignees

SHEARMAN & STERLING  
1080 Marsh Road  
Menlo Park, CA 94025  
(650) 838-3600

**Certificate of Mailing**

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to:

Commissioner for Patents  
Washington, D.C. 20231

on January 16, 2003  
(Date)

Typed or printed name of person signing this certificate:

Matthew T. Byrne

Signature:



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OFFICE OF PETITIONS

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TSP



UNITED STATES PATENT AND TRADEMARK OFFICE

COMMISSIONER FOR PATENTS  
UNITED STATES PATENT AND TRADEMARK OFFICE  
P.O. BOX 1450  
ALEXANDRIA, VA 22313-1450  
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Paper No. 70

SHEARMAN & STERLING  
1080 MARSH ROAD  
MENLO PARK CA 94025

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JUL 08 2003

OFFICE OF PETITIONS

In re Patent No. 5,807,715  
Issued: September 15, 1998  
Application No. 08/266,154  
Filed: June 27, 1994  
Attorney Docket No. BD1CIPFWCHII

ON PETITION

1002210149139280

This is a decision on the petition under 37 CFR 1.182 filed January 21, 2003 (certificate of mailing date January 16, 2003), for issuance of a corrected patent. The petition is being treated under 37 CFR 1.182 as a request to reprint the front page of the Letters Patent.

The petition under 37 CFR 1.182 to reprint the front page of the Letters Patent is **DISMISSED**.

Petitioner is advised that it is the practice of the U.S. Patent and Trademark Office (USPTO) to issue a certificate of correction to correct an error on the part of an application in those cases where the assignee or attorney data is incorrect or was inadvertently not provided at the time of payment of the issue fee or the inventor's name is misspelled or otherwise incorrect. Note 37 CFR 1.323 and MPEP 1482 (35 U.S.C. 255), which states:

Whenever a mistake of a clerical or typographical nature, or of minor character, which was not the fault of the Patent and Trademark Office, appears in a patent and a showing has been made that such mistake occurred in good faith, the Commissioner may, upon payment of the required fee, issue a certificate of correction, if the correction does not involve such changes in the patent as would constitute new matter or would require re-examination. Such patent, together with the certificate, shall have the same effect and operation in law on the trial of actions for causes thereafter arising as if the same had been originally issued in such correct form."

In addition, the USPTO will reprint the front page of the Letters Patent if the following conditions are met:

1. Submission of a petition under 37 CFR 1.182
2. Payment of a \$130 petition fee
3. Payment of a \$100 fee to place a certificate of correction in the USPTO archives
4. Return of the original Letters Patent

In this instance, all substantive errors in the patent have already been corrected by way of certificates of correction. Petitioner desires the full name of the assignee -- "The Trustees of Columbia University in the City of New York" -- to be listed on the first page of the patent. The full name of the assignee was not provided on the Issue Fee Transmittal.

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In re Patent No. 5,807,715

Page 2

The appropriate avenue to obtain relief is to file:

(1) a petition under 37 CFR 1.183 to waive the rules and accept the correction of the assignee on the front page of the above-identified patent by way of a certificate of correction -- the petition must include a completed certificate of correction form, the \$130 petition fee, and the \$100 certificate of correction fee

and

(2) a reconsideration petition under 37 CFR 1.182 to reprint the assignee's name, as well as the correct title, etc. on the front page of the Letters Patent. The desired changes must be reflected in the request for the certificate of correction. As stated above, petitioner must return the original Letters Patent. Please note that only the front page of the Letters Patent is reprinted. All other copies are considered corrected by the normal certificate of correction process.

The file will be returned to Files Repository.

Further correspondence with respect to this matter should be addressed as follows:

**By mail:** Mail Stop PETITION  
Commissioner for Patents  
Post Office Box 1450  
Alexandria, VA 22313-1450

**By hand:** Crystal Plaza Four, Suite 3C23  
2201 South Clark Place  
Arlington, VA 22202

**By Fax:** (703) 308-6916  
ATTN: Office of Petitions

Telephone inquiries concerning this decision should be directed to the undersigned at (703) 308-6712.

*E. Shirene Willis*  
E. Shirene Willis  
Senior Petitions Attorney  
Office of Petitions

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OFFICE OF PETITIONS



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.  
(Also Form PTO-1050)

## UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

PATENT NO : 5,807,715

DATED : September 15, 1998

INVENTOR(S) : S.L. Morrison, L.A. Herzenberg, and V.T. Oi

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Item [73], Assignee, replace:

“Assignees: **The Board of Trustees of The Leland Stanford Junior University, Stanford, Calif., and The Trustees of Columbia University, New York, N.Y.**

with

-- Assignees: **The Board of Trustees of the Leland Stanford Junior University, Stanford, Calif., and The Trustees of Columbia University in the City of New York, New York, N.Y.** --

MAILING ADDRESS OF SENDER: **Shearman & Sterling LLP  
Intellectual Property Docketing  
599 Lexington Avenue  
New York, N.Y. 10022**

PATENT NO. 5,807,715

No. of additional copies



Burden Hour Statement: This form is estimated to take 1.0 hour to complete. Time will vary depending upon the needs of the individual case. Any comment on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

08265454-013704

UNITED STATES PATENT AND TRADEMARK OFFICE  
CERTIFICATE OF CORRECTION

PATENT NO. : 5,807,715  
DATED : September 15, 1998  
INVENTOR(S) : S.L. Morrison, Herzenberg, L.A. and Oi, V.T.

Page 1 of 5

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Title page, Item [54] and Column 1, Lines 1 and 5,

Item [54], delete "LYMPHOCYTE" and replace with -- LYMPHOCYTIC --; after "IMMUNOGLOBULIN", add -- AND FRAGMENTS --.

Item [75], Inventors, delete "Scarsdale, N.Y." and replace with -- Los Angeles --; delete "Menlo Park" and replace with -- Mountain View --; delete "both" and replace with -- all --.

Item [73], Assignee, delete "Assignee" and replace with -- Assignees --; after "Calif." add --, and The Trustees of Columbia University, New York, N.Y. --.

Item [56], References Cited, after "Seno, et al 1983 Nucleic", delete "Acid" and replace with -- Acids --; after "Research 11 (3)", delete ";" and replace with -- . --; and after "Dolby et al 1980 PNAS 77 (10)" add -- : --.

Column 1,

Line 16, add the paragraph -- The work described herein was supported in part by grants from the National Institutes of Health (NIH), including AI-00408, AI-08917, CA-04681, and CA-16858. The United States Government has certain rights in the invention. --

Line 19, delete "1."

Line 41, delete "2."

Line 61, after "functional", add --, --; after "assembled", add --, --.

Line 66, delete "mouisc-" and replace with -- mouse: --

Line 67, delete ":".

Column 3,

Line 26, delete "prepar" and replace with -- prepara --.

Line 32, delete "CDNA" and replace with -- cDNA --.

Column 4,

Line 45, delete "CDNA" and replace with -- cDNA --.

Line 52, delete "CDNA" and replace with -- cDNA --.

Line 59, delete "CDNA" and replace with -- cDNA --.

Line 65, delete "Joining" and replace with -- joining --.

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UNITED STATES PATENT AND TRADEMARK OFFICE  
CERTIFICATE OF CORRECTION

PATENT NO. : 5,807,715  
DATED : September 15, 1998  
INVENTOR(S) : S.L. Morrison, Herzenberg, L.A. and Oi, V.T.

Page 2 of 5

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 8.

Line 2, after "immunization", add -- , --.

Line 21, delete "VH" and replace with --  $V_H$  --.

Line 22, delete "V $\kappa$ " and replace with --  $V_\kappa$  -- (Greek letter kappa subscripted).

Line 24, delete "VH" and replace with --  $V_H$  --.

Line 29, delete "V $\kappa$ " and replace with --  $V_\kappa$  -- (Greek letter kappa subscripted).

Line 31, delete "J $\kappa$ " and replace with --  $J_\kappa$  -- (Greek letter kappa subscripted); delete "C $\kappa$ " and replace with --  $C_\kappa$  -- (Greek letter kappa subscripted).

Column 9.

Line 9, delete "Five" and replace with -- Fine --; delete "Chemicals" and replace with -- Chemicals --.

Line 19, delete "VH-VL" and replace with --  $V_H$ - $V_L$  --.

Line 57, delete "H2L2" and replace with --  $H_2L_2$  --.

Line 67, delete "K" and replace with --  $\kappa$  --; delete "antiodies" and replace with -- antibodies --.

Column 10.

Line 5, after "expected" add -- , --.

Line 10, delete "VH" and replace with --  $V_H$  --; delete "V $\kappa$ " and replace with --  $V_\kappa$  -- (Greek letter kappa subscripted).

Line 14, delete "mouse: human" and replace with -- mouse:human --.

Line 22, delete "VH" and replace with --  $V_H$  --; delete "V $\kappa$ " and replace with --  $V_\kappa$  -- (Greek letter kappa subscripted).

Line 36, delete "Mr" and replace with --  $M_r$  --.

Line 42, delete "Mr" and replace with --  $M_r$  --.

Line 54, delete "hybri-doma-" and replace with -- hybridoma --.

0426154-0426154



UNITED STATES PATENT AND TRADEMARK OFFICE  
CERTIFICATE OF CORRECTION

PATENT NO. : 5,807,715  
DATED : September 15, 1998  
INVENTOR(S) : S.L. Morrison, Herzenberg, L.A. and Oi, V.T.

Page 3 of 5

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 11.

Line 5, delete "V $\kappa$ " and replace with -- V $\kappa$  -- (Greek letter kappa subscripted).  
Line 10, delete "mouse: human" and replace with -- mouse:human --.  
Line 21, delete "use" and replace with -- used --.  
Line 35, delete "IgG<sub>1</sub>, IgG<sub>2</sub>, IgG<sub>3</sub>, IgG<sub>4</sub>, rabbit IgG and mouse IgG<sub>3</sub>" and replace with -- IgG<sub>1</sub>, IgG<sub>2</sub>, IgG<sub>3</sub>; IgG<sub>4</sub>, rabbit IgG and mouse IgG<sub>3</sub> --.  
Line 37, delete "(delta)" and replace with --  $\Delta$  -- (Greek letter capital delta).  
Line 41, delete "VK" and replace with -- V $\kappa$  -- (Greek letter kappa subscripted).  
Line 43, after "Ann" add -- . --.  
Line 44, delete "V $\kappa$ " and replace with -- V $\kappa$  -- (Greek letter kappa subscripted).  
Line 60, delete "pure, >95%" and replace with -- pure (>95%) --.  
Line 63, delete "mouse-human" and replace with -- mouse:human --.  
Line 64, delete "IgG<sub>3</sub>" and replace with -- IgG<sub>3</sub> --.

Column 12.

Line 3, delete "IgG<sub>1</sub>" and replace with -- IgG<sub>1</sub> --.  
Line 10, delete "affinity purified" and replace with -- affinity-purified --.  
Line 22, delete "labelling" and replace with -- labeling --.  
Line 26, delete "pp." and replace with -- p. --.  
Line 31, after "Kornfeld" add -- , --.  
Line 32, delete "Wigzell Proc," and replace with -- Wigzell, *Proc.* --.  
Line 33, after "et al." add -- , --.  
Line 42, delete "IgG<sub>1</sub>-IgG<sub>2a</sub>" and replace with -- IgG<sub>1</sub>-IgG<sub>2a</sub> --.  
Line 64, delete "IgG<sub>1</sub>" and replace with -- IgG<sub>1</sub> --; delete "IgG<sub>2a</sub>" and replace with -- IgG<sub>2a</sub> --.  
Line 65, delete "IgG<sub>2a</sub>" and replace with -- IgG<sub>2a</sub> --; delete "IgG<sub>1</sub>" and replace with -- IgG<sub>1</sub> --.

Column 13.

Line 4, delete "T<sub>4</sub>" and replace with -- T<sub>4</sub> --.  
Line 43, after "Gilbert" add -- , --.  
Line 65, delete "Dangi" and replace with -- Dangi --.

Column 14.

Line 24, delete "bateria" and replace with -- bacteria --.  
Line 41, delete "C." and replace with -- C --.  
Line 53, delete "labelled" and replace with -- labeled --.

0065154-01304

UNITED STATES PATENT AND TRADEMARK OFFICE  
CERTIFICATE OF CORRECTION

PATENT NO. : 5,807,715  
DATED : September 15, 1998  
INVENTOR(S) : S.L. Morrison, Herzenberg, L.A. and Oi, V.T.

Page 4 of 5

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 15,

Line 5, delete "IgG<sub>1</sub>" and replace with -- IgG1 --; delete "IgG<sub>2a</sub>" and replace with -- IgG2a --.

Line 25, delete "pHGXC<sub>2</sub>aB" and replace with -- pHGXC<sub>1</sub>B --.

Line 27, delete "Trp" and replace with -- TRP<sup>+</sup> --.

Line 39, delete "Trp" and replace with -- TRP<sup>+</sup> --.

Line 44, delete "IgG<sub>1</sub>" and replace with -- IgG1 --.

Line 45, delete "IgG<sub>2a</sub>" and replace with -- IgG2a --.

Line 49, delete "IgG<sub>2a</sub>" and replace with -- IgG2a --.

Line 50, delete "IgG<sub>1</sub>" and replace with -- IgG1 --.

Line 46, delete "-7" and replace with -- 7 --.

Column 16,

Line 2, delete "IgG<sub>1</sub>" and replace with -- IgG1 --.

Line 3, delete "IgG<sub>2a</sub>" and replace with -- IgG2a --.

Line 18, delete "M<sub>1</sub>" and replace with -- M<sub>1</sub> --.

Line 29, delete "are" and replace with -- is --; delete "IgG<sub>1</sub>" and replace with -- IgG1 --.

Line 30, delete "IgG<sub>2a</sub>" and replace with -- IgG2a --.

Line 44, delete "IgG<sub>2a</sub>" and replace with -- IgG2a --.

Column 17,

Line 63, delete "P<sub>3</sub>" and replace with -- P3 --.

Column 18,

Line 57, delete "P<sub>3</sub>" and replace with -- P3 --.

Column 19,

Line 33, delete "P<sub>3</sub>" and replace with -- P3 --.

Column 20,

Line 50, delete "39" and replace with -- 37 --.

Line 52, delete "are".

Line 53, delete "are".

Line 58, delete "are".

Line 59, delete "are".

10265154.042704

UNITED STATES PATENT AND TRADEMARK OFFICE  
CERTIFICATE OF CORRECTION

PATENT NO. : 5,807,715  
DATED : September 15, 1998  
INVENTOR(S) : S.L. Morrison, Herzenberg, L.A. and Oi, V.T.

Page 5 of 5

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 21.

Line 13, shift line beginning with "express" to left margin.

Line 14, shift line beginning with "specifically" to left margin.

Line 29, delete "arc" and replace with -- are --.

Column 22.

Line 43, delete "arc" and replace with -- are --.

This certificate supersedes the Certificate of Correction issued July 9, 2002.



Attest:

*Virginia Tolbert*

Attesting Officer

Signed and Sealed this

Sixth Day of August, 2002

JAMES E. ROGAN

Director of the United States Patent and Trademark Office

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